

Application Serial No. 09/702,493
Amendment Dated September 15, 2003
Reply to Final Office Action Dated July 16, 2003

Listing of Claims

1. (previously presented) A fluid dispenser for dispensing a fluid onto a substrate comprising:

a dispensing valve movable between open and closed positions for controlling a flow of the fluid from said fluid dispenser;

a solenoid, the operation of said solenoid being effective to cause said dispensing valve to move between the open and closed positions;

a power supply having an output voltage; and

a driver circuit electrically connected to said solenoid and said power supply and providing an output signal to said solenoid having an initial peak current with a variable duration followed by a hold current, the duration of said initial peak current varying as a function of the output voltage of said power supply.

2. (previously presented) The fluid dispenser of claim 1 wherein said driver circuit automatically varies the duration of said initial peak current as a function of the output voltage of said power supply.

3. (previously presented) The fluid dispenser of claim 2 wherein said driver circuit automatically varies the duration of said initial peak current as an inverse function of a magnitude of the output voltage of said power supply.

4. (previously presented) The fluid dispenser of claim 1 wherein the driver circuit further comprises a peak current duration control connected to said power supply and providing a signal varying as an inverse function of the output voltage of said power supply.

Claims 5 - 15 (canceled)

Application Serial No. 09/702,493
Amendment Dated September 15, 2003
Reply to Final Office Action Dated July 16, 2003

16. (previously presented) A method of operating a fluid dispenser for dispensing a fluid onto a substrate, the fluid dispenser having a dispensing valve being movable between open and closed positions for controlling a flow of the fluid from the fluid dispenser, a solenoid having a coil in electromagnetic communication with an armature being movable through a displacement by energizing the coil, the operation of the solenoid being effective to cause the dispensing valve to move between the open and closed positions; the method comprising:

providing a power supply having a voltage;

producing an output signal having an initial peak current with a variable duration followed by a hold current, the duration of the initial peak current varying as a function of the voltage of the power supply; and

applying the output signal to the coil of the solenoid, thereby automatically changing the operation of the dispensing valve as a function of the voltage of the power supply.

Claims 17 - 18 (canceled)

Application Serial No. 09/702,493
Amendment Dated September 15, 2003
Reply to Final Office Action Dated July 16, 2003

19. (previously presented) A method of operating an electrically operated fluid dispenser for dispensing a fluid onto a substrate, the fluid dispenser having a dispensing valve operatively connected to an electrically operated solenoid, the dispensing valve being movable between open and closed positions for controlling a flow of the fluid from the fluid dispenser, the method comprising:

providing a power supply having a voltage;

producing an output signal having an initial peak current with a variable duration followed by a hold current, the duration of the initial peak current varying as a function of the voltage of the power supply; and

applying the output signal to the electrically operated solenoid, thereby automatically changing the operation of the dispensing valve as a function of the voltage of the power supply.

20. (canceled)

21. (previously presented) The method of claim 19 further comprising varying the variable duration of the initial peak current of the output signal as an inverse function of the voltage of the power supply.

22. (previously presented) The method of claim 19 further comprising:

producing a feedback signal representing current in the solenoid;

and

producing the hold current as a function of the feedback signal.

Application Serial No. 09/702,493
Amendment Dated September 15, 2003
Reply to Final Office Action Dated July 16, 2003

23. (previously presented) A method of operating an electrically operated fluid dispenser for dispensing a fluid onto a substrate, the fluid dispenser having a dispensing valve operatively connected to an electrically operated solenoid, the dispensing valve being movable between open and closed positions for controlling a flow of the fluid from the fluid dispenser, the method comprising:

producing a first output signal having an initial peak current with a variable duration followed by a hold current, the duration of the initial peak current varying as a function of a first nominal voltage of a first power supply connectable to the fluid dispenser;

applying the first output signal to the solenoid;

producing a second output signal having an initial peak current with a variable duration followed by a hold current, the duration of the initial peak current varying as a function of a second nominal voltage of a second power supply connectable to the fluid dispenser in place of the first power supply; and

applying the second output signal to the solenoid.

Claims 24 - 25 (canceled)